

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application.

Claims 11 and 27-59 are pending in this application. Claims 1-10 were previously cancelled by way of Preliminary Amendment dated December 16, 2005. Claims 12-26 have been cancelled at this time. Claims 27-59 have been added, which are supported by, for instance, the present specification at pages 20:15 ~ 29:12. Therefore, no new matter has been added.

Applicants respectfully request the Examiner to reconsider and withdraw the rejections in view of the following remarks.

Restriction Requirement

The Examiner has made the Restriction Requirement final, and has withdrawn claims 12-26 from further consideration. Accordingly, claims 12-26 have been cancelled. Applicants reserve the right to file a divisional application directed to claims 12-26 at a later date if so desired.

Issues under 35 U.S.C. §112

1. 35 U.S.C. § 112, first paragraph

The Examiner has rejected claim 11 under 35 U.S.C. §112, first paragraph, asserting that the specification does not disclose the broad class of reactive derivatives in process (C). Also, the Examiner asserts that the expressions of an ester residue, a reactive derivative and a leaving group do not meet the enablement requirement because the specification has no indication given as to what the esters, reactive derivatives or leaving groups really are. Applicants respectfully traverse this rejection.

Regarding allegedly unknown reactive derivatives of a compound of the formula [VIII], this reactive derivative specifies acid halides in the present specification, for example, at page 29, lines 6-7. The preparation of the reactive derivative of the compound of the formula (VIII) such as acid halides is within the one of ordinary skill in the art. Accordingly, the ordinary skilled person in the art can easily produce these acid halides by, for instance, replacing the -OH group of RCOOH of the compound of the formula [VIII] with a halogen atom, which is a well known method to prepare the acid halides.

Regarding expressions of ester residue, reactive derivative and leaving group, Applicants respectfully submit that the present specification appropriately defines these terms. Specifically, "an ester residue" is supported by the present specification, for instance, at page 27 lines 12-13, "a reactive derivative" at page 29, lines 6-7, and "a leaving group" at pages 20:18-20, 23:12-14, 25:22-25, and 27:9-12. Accordingly, based on the detailed description of the specification, the ordinary skilled person in the art can easily and reasonably recognize these groups and are thus enabled to make the compound of formula (I) without undue experimentation. These preparations are well known to the ordinary skilled person in the art.

Therefore, reconsideration and withdrawal of these rejections are respectfully requested.

2. 35 U.S.C. § 112, second paragraph

The Examiner has rejected claim 11 under 35 U.S.C. §112, second paragraph, for the reason that the expressions of the leaving group, ester residue and reactive derivative are not defined in claim 11, that the claimed process is not clearly disclosed by failing to recite the reaction conditions such as reagents, solvents, temperatures, etc., and that the terms of "converting" and "A' group" are indefinite. Applicants respectfully traverse this rejection.

Regarding indefinite expressions of the leaving group, ester residue and reactive derivative, Applicants respectfully submit that they are well-known to the ordinary skilled person

in the art and are detailed in the present specification as discussed above. Therefore, these expressions are not indefinite.

Regarding the reaction conditions, Applicants respectfully submit the following arguments.

The claimed invention comprises processes (A), (B) and (C) in sequence to give a compound of the formula [I] wherein process (A) has steps of 1)-a) or 1)-b), 2) and 3); process (B) has steps of 1), 2) and 3); and process (C) has one single step. Specifically, (A) 1)-a) is directed to reacting a compound of the formula [II] with a compound of the formula [III] and 1)-b) is directed to reacting a compound of the formula [IV] with a compound of the formula [V]. (A) 2) relates to the resulting compound of the formula [VI] to catalytic reduction, and (A) 3) relates to the resulting compound of the formula [VII] to lower-alkyl esterification when COOR⁰ is a carboxyl group, followed by isomerization to give a trans-form compound of the formula [VIII]. Also, (B) 1) pertains to a cyanation of a compound of the formula [IX], (B)2) pertains to reacting the resulting compound of the formula [X] with a compound of the formula [XI] and reacting the resulting compound of the formula [XII] with a compound of the formula [XIII], and (B)3) pertains to cyclizing the resulting compound of the formula [XIV] to give a compound of the formula [XV]. Further, (C) is directed to reacting a compound of the formula [XV] with a compound of the formula [VIII] or reactive derivative thereof.

As explained in the above paragraphs, independent claim 11 defines all essential steps including each of reaction, catalytic reduction, lower-alkyl esterification, isomerization, cyanation, and cyclization to produce intended compound of the formula [I]. Therefore, claim 11 in itself is definite.

Also, the reaction conditions used in these steps are predictable because the ordinary skilled person in the art can easily and reasonably recognize these steps and their reaction conditions to give the compound of formula (I).

Further, these conditions are disclosed in detail in the present specification, for instance, at pages 20-30 and the Examples. Thus, it is not difficult for the ordinary skilled person to select

these conditions based on the detailed description as well as the ordinary knowledge of the relevant art. Accordingly, what is sought to be protected of the present invention is definite.

Regarding the terms "converting" and "A' group" of claim 11, Applicants respectfully submit the following explanations.

In step (B)2), R⁷ of the compound of the formula [XI] is a hydrogen atom or an ester residue when the compound of the formula [X] is reacted with the compound of the formula [XI] to give the compound of the formula [XII] having the same definition of R⁷. Then, when R⁷ of the compound of the formula [XII] is an ester residue, it is necessary to convert it into a hydrogen atom and then react the compound of the formula [XII] with the compound of the formula [XIII] to give the compound of the formula [XIV]. Therefore, the term "converting" does not fail to describe a process.

Also, A' group in claim 11 means "a group in which a nitrogen atom is removed from a nitrogen-containing heterocyclic group".

Therefore, as discussed above, these indefinite issues have been resolved and thus, reconsideration and withdrawal of 35 U.S.C. § 112, second rejection are respectfully requested.

Conclusion

In summary, Applicants respectfully submit that the present claims define allowable subject matter. Therefore, the Examiner is respectfully requested to withdraw all rejections and allow the presently pending claims.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Craig A. McRobbie (Reg. No. 42,874) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Dated: DEC 21 2007

Respectfully submitted,

By 

Craig A. McRobbie

Registration No.: 42,874

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant